

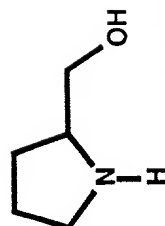
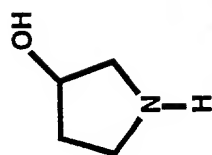
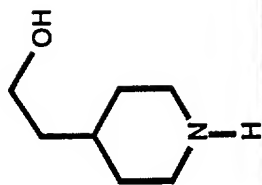
# FIGURE 1

5'-GAAACTGGACAGCACAGACTTCACCA(G)GCACCATCAAGCTGCTGAATGAAAAT  
TCATATGTCCCTCGTGAG-3' (71 bp) (SEQ ID 1)  
3'-CTTTGACCTGTCGTGTCTGAAGTGGT(C)CGTGGTAGTTCGACGACTTACTTTTAA  
GTATACAGGGAGCACTC-5' (SEQ ID 2)

5'-CCTGAAGAGAAAGTTGTCGGAGAACTGGACAGCACAGACTTCACCA(G)GCA  
CCATCAAGCTGCTGAA-3' (67 bp) (SEQ ID 3)  
3'-GGACAACTCTTTCAACAGCCTCTTTGACCTGTCGTGTCTGAAGTGGT(C)CGTG  
GTAGTTCGACGACTT-5' (SEQ ID 4)

5'-CCTGAAGAGAAAGTTGTCGGAGAACTGGACAGCACAGACTTCACA(G)GCACCA  
TCAAGCTGCTGAATG-3' (68 bp) (SEQ ID 5)  
3'-GACAACTCTTTCAACAGCCTCTTTGACCTGTCGTGTCTGAAGTGGT(C)CGTGGT  
AGTTCGACGACTTAC-5' (SEQ ID 6)

Figure 2



T\*

C\*

G\*

A\*

T\*

C\*

G\*

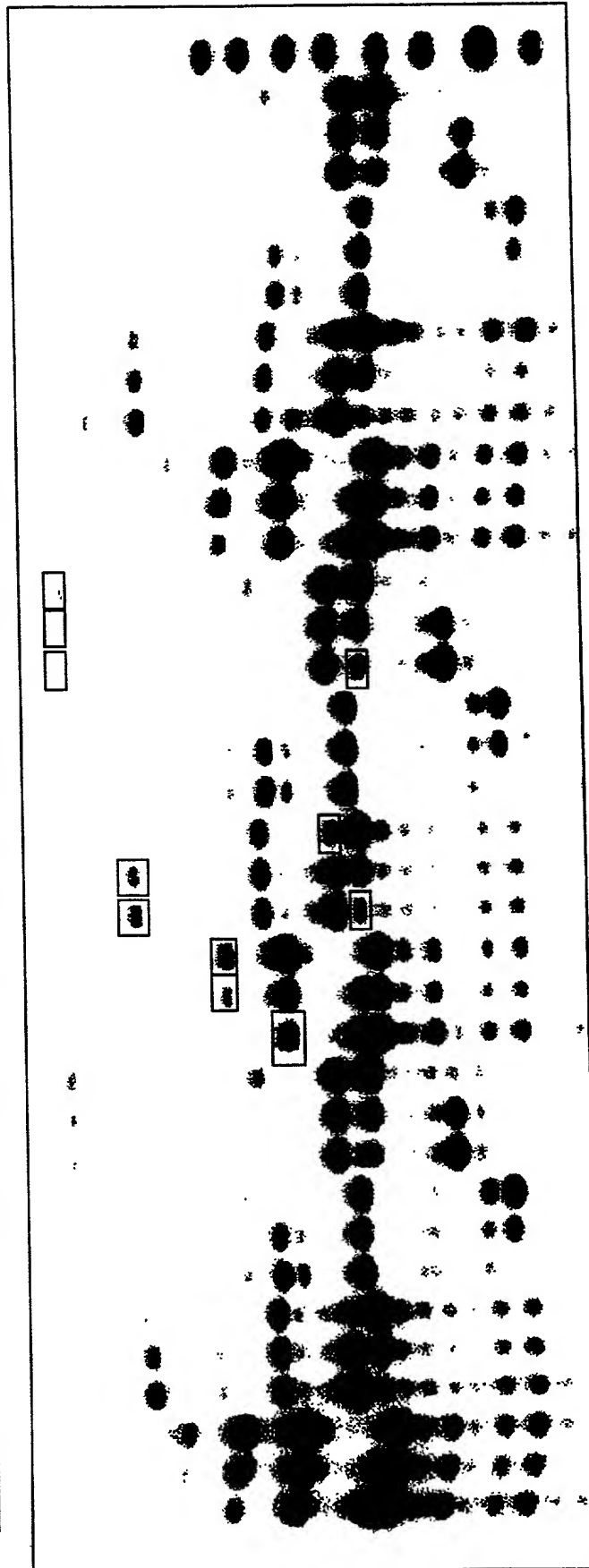
A\*

T\*

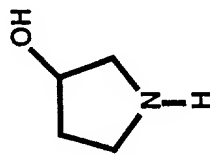
C\*

G\*

A\*

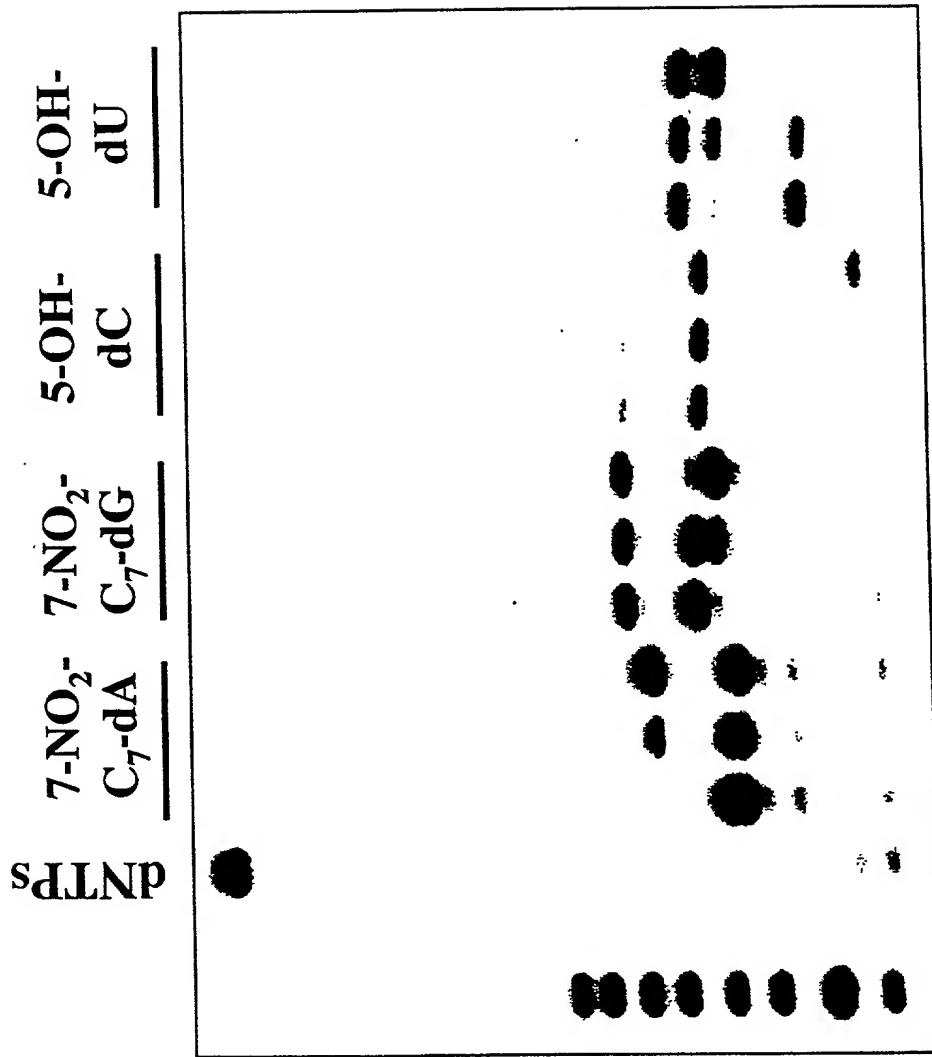


**1.46 M**

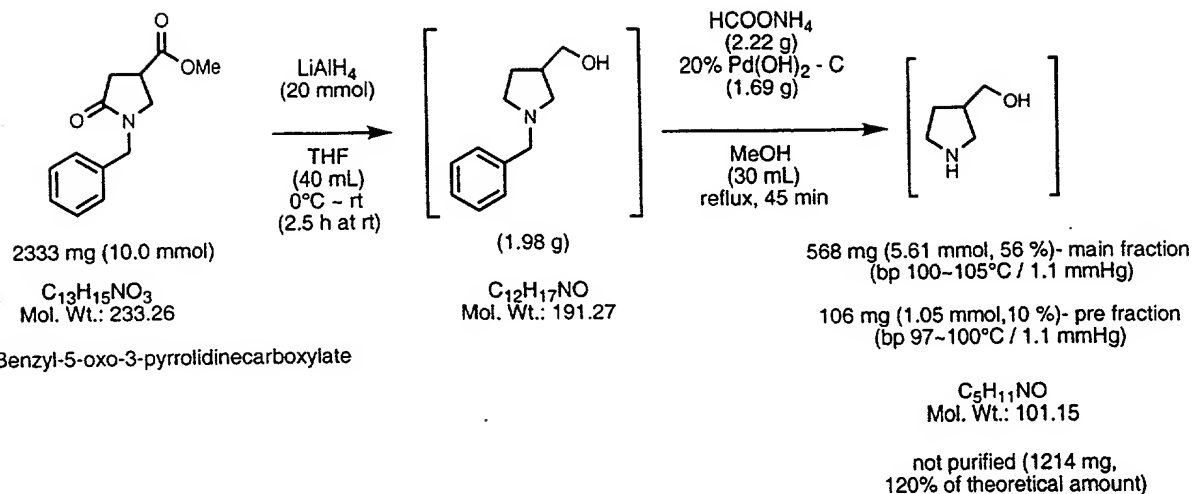


**98°C**  
**1 hr**

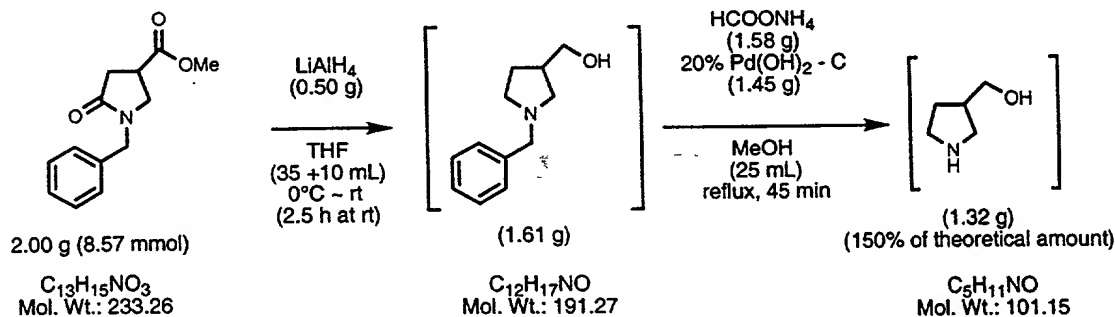
Figure 3



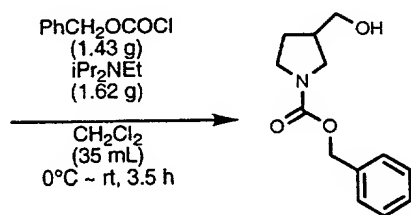
# Figure 4



Methyl 1-Benzyl-5-oxo-3-pyrrolidinecarboxylate



Methyl 1-Benzyl-5-oxo-3-pyrrolidinecarboxylate

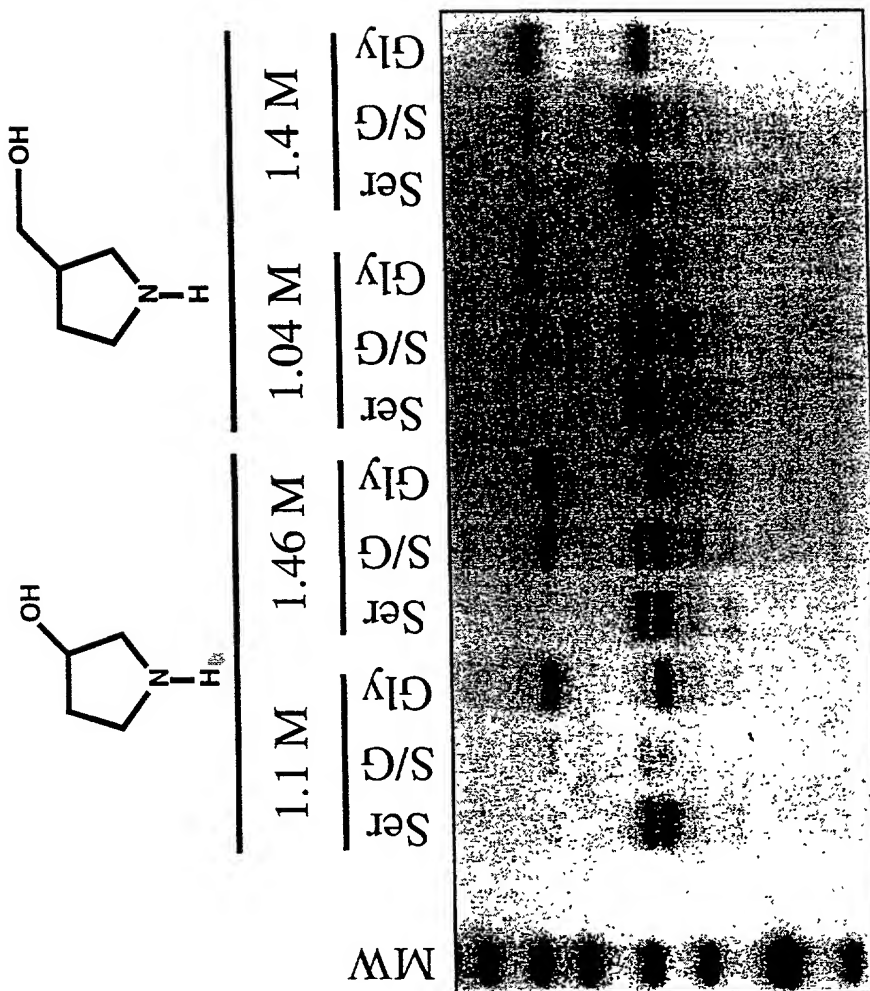


674 mg  
 (2.86 mmol)  
 33% yield in 3 steps  
 (one chromatographic purification)

[ $SiO_2$  flash column (AcOEt: Hex = 1 : 1 ~ 2 : 1)]

$C_{13}H_{17}NO_3$   
 Mol. Wt.: 235.28

Figure 5



A\*-DNA

Fig. 6

POLYMORPHIC SITE, A OR G

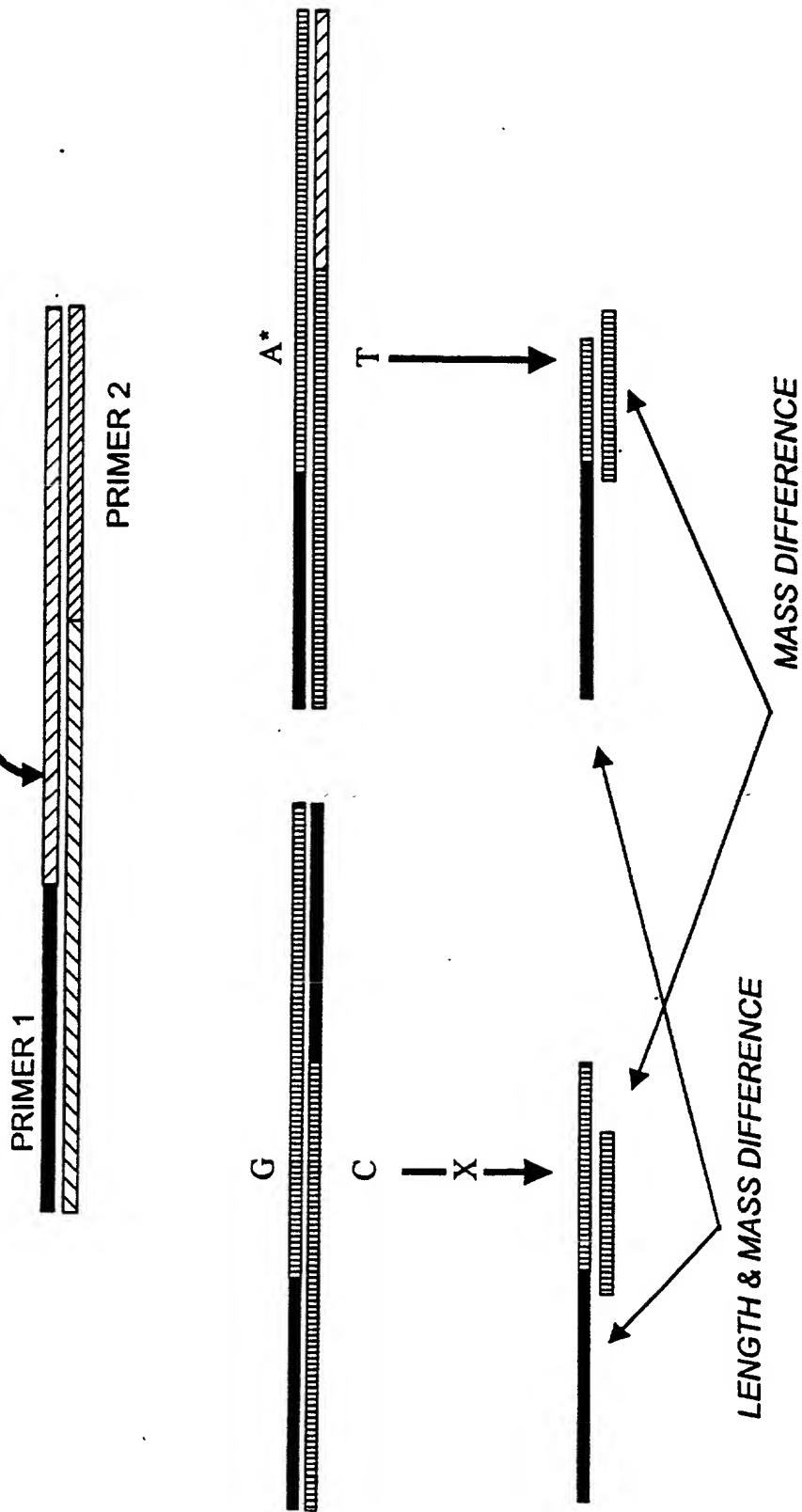
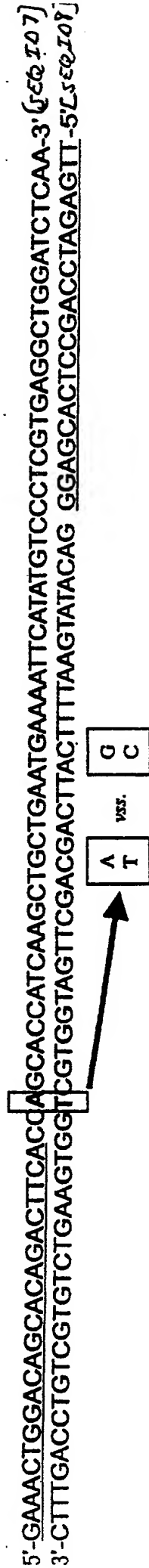
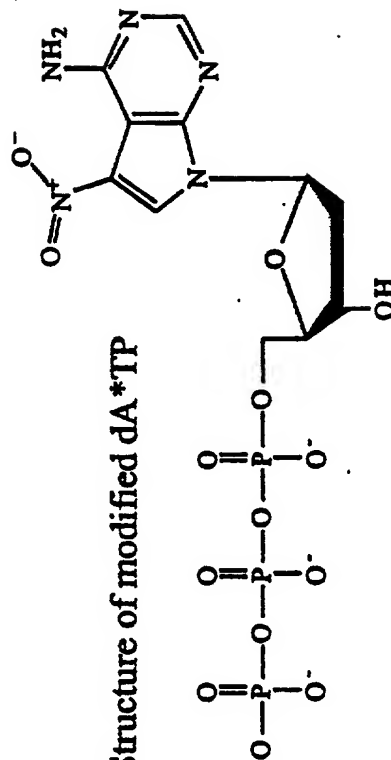


Fig. 7

7(a)



Structure of modified dA\*TP



AmpliTaq Gold	0.1 unit/ml
modified-dA*TP	0.2 mM
dCTP, dGTP, dTTP	0.2 mM

Fig. 7(b)

<u>Sequence</u>	<u>Length</u>	<u>MW</u>	<u><math>\Delta</math> MW</u>
$\left\{ \begin{array}{l} 5'-\text{GAAACTGGACAGCACAGACTTCACCC} \text{ (55 nt)} \\ \text{or} \\ 5'-\text{GAAACTGGACAGCACAGACTTCACCGGC} \text{ (55 nt)} \end{array} \right\}$	25nt	8057	$\bigwedge$ 948 Da
GGGAGCACTCCGACCTAGAGTT-5' (55 nt)	28nt	9005	
GGGAGCACTCCGACCTAGAGTT-5' (55 nt)	22nt	7189	
CCGTCGTCGTCGTC-5' (55 nt)	13nt	4441	
$\left\{ \begin{array}{l} \text{GTGGTCGTCGTC-5' (55 nt)} \\ \text{or} \\ \text{GTGGCCGTCGTC-5' (55 nt)} \end{array} \right\}$	11nt	3927	$\bigwedge$ 15 Da
5'-TGTCCTCGTG (55 nt)	11nt	3912	
5'-TGTCCTCGTG (55 nt)	11nt	3807	



Fig. 8

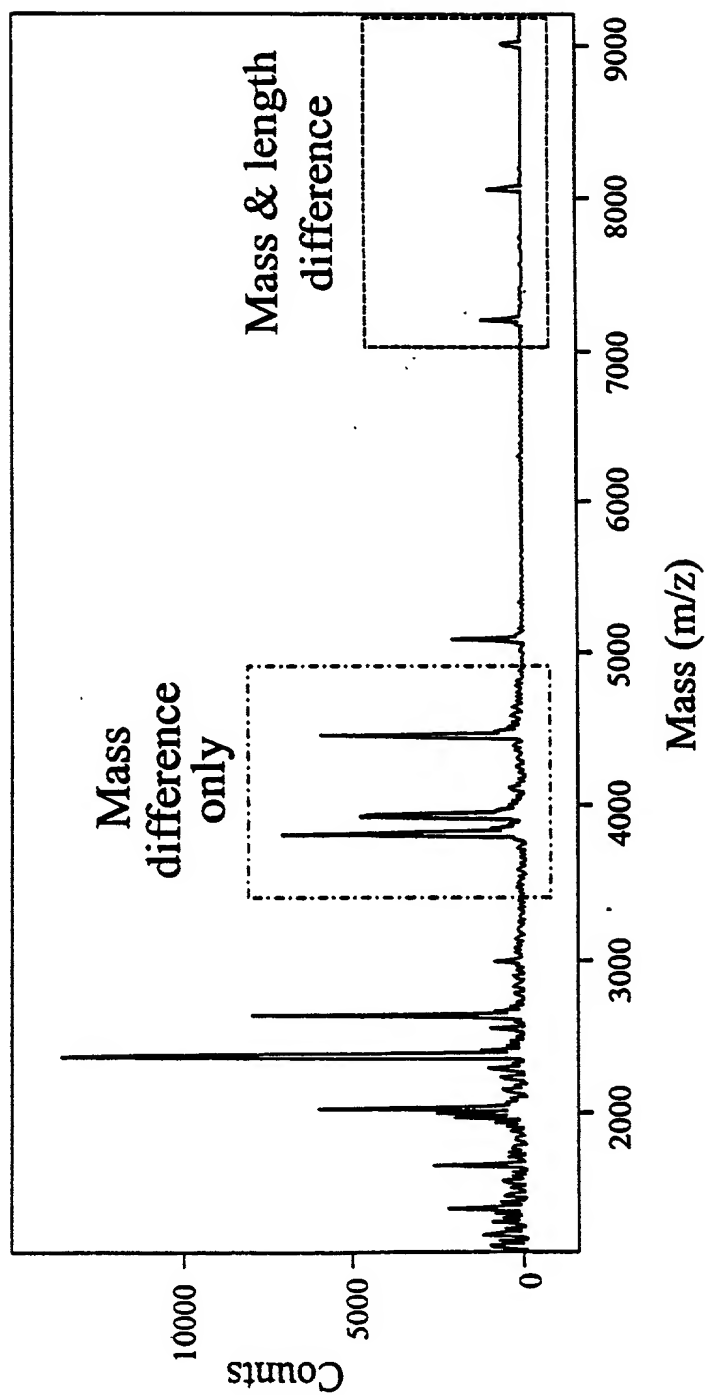


Fig. 9

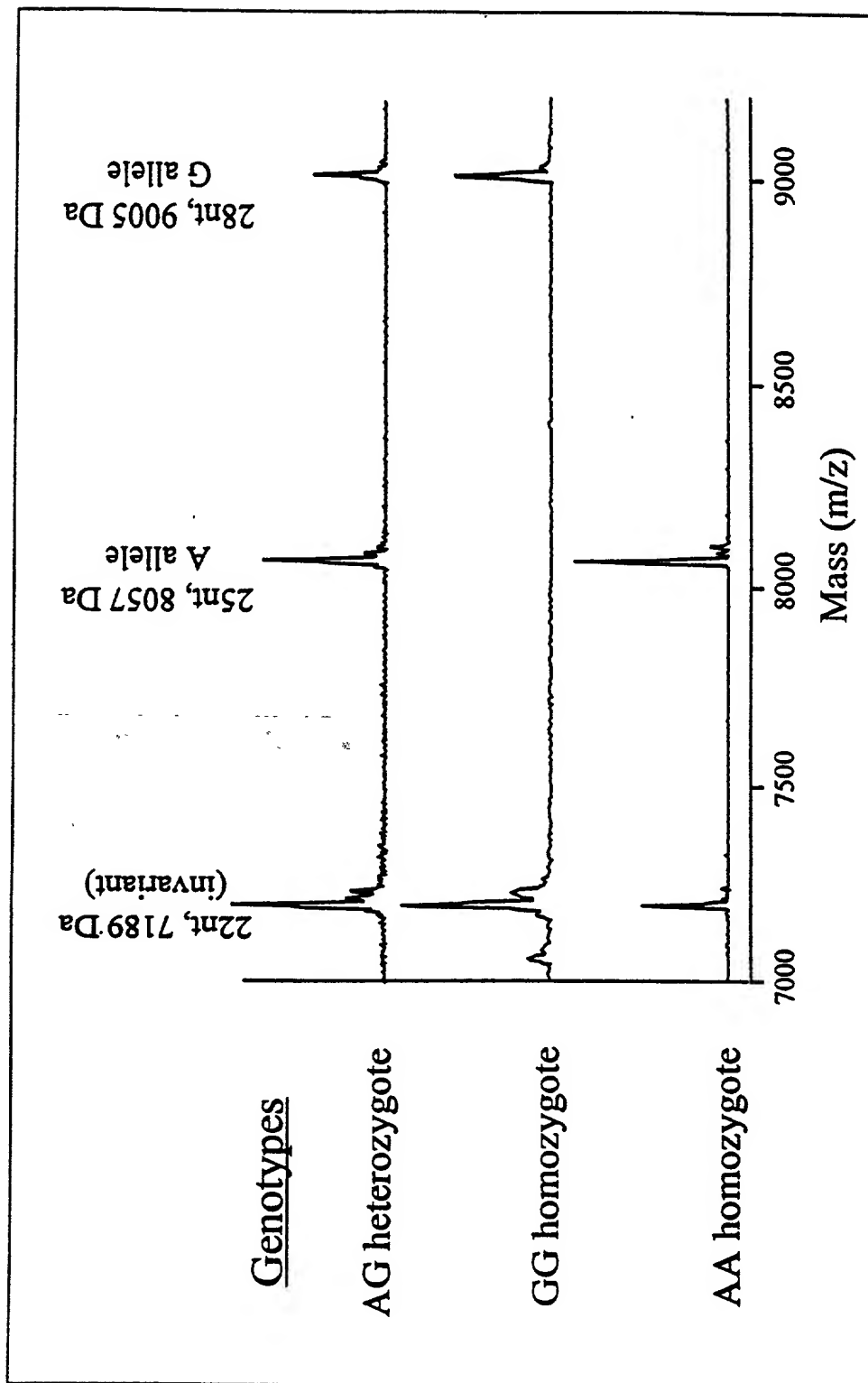
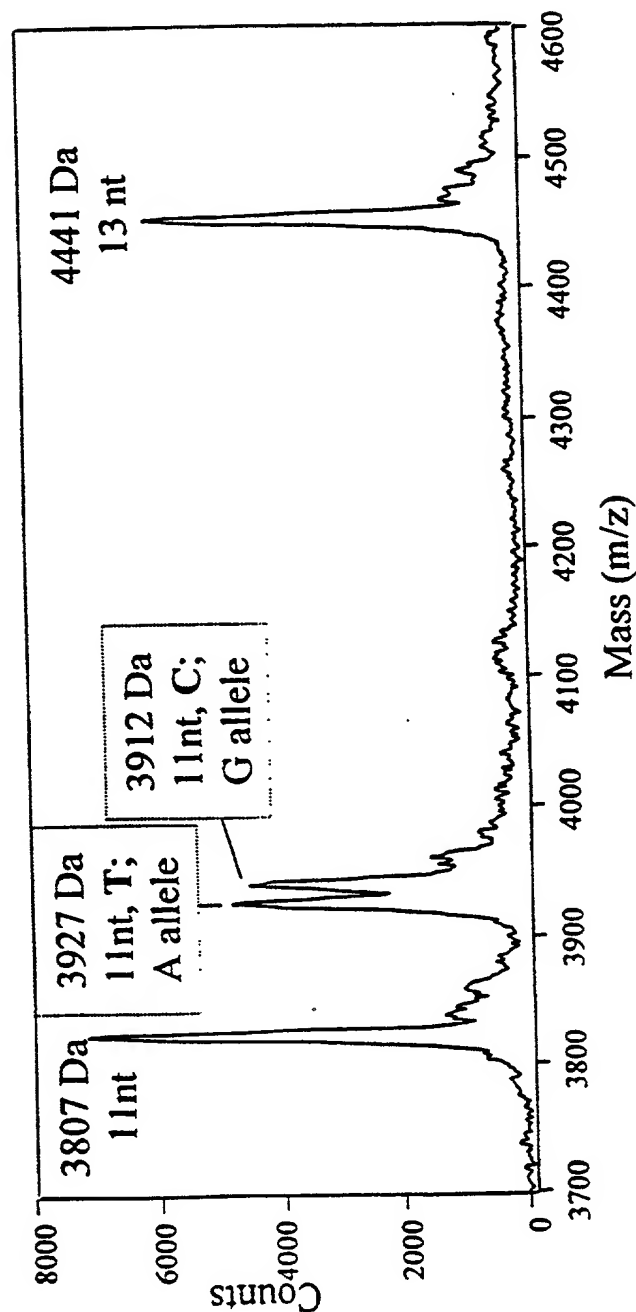
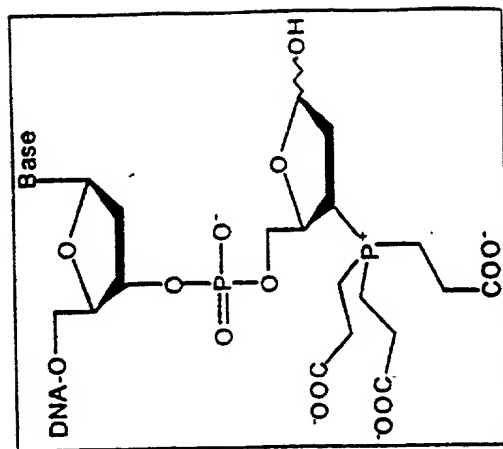


Figure 10. Genotyping by mass spectrometry: detection of mass differences

(a) MALDI-TOF analysis of heterozygote sample:  
chemically restricted internal fragments provide confirmation



(b) Proposed structure  
of the cleavage product



Mass sepctrum of a heterozygote sample in the region  
of 3700-4600 daltons

Fig. 11

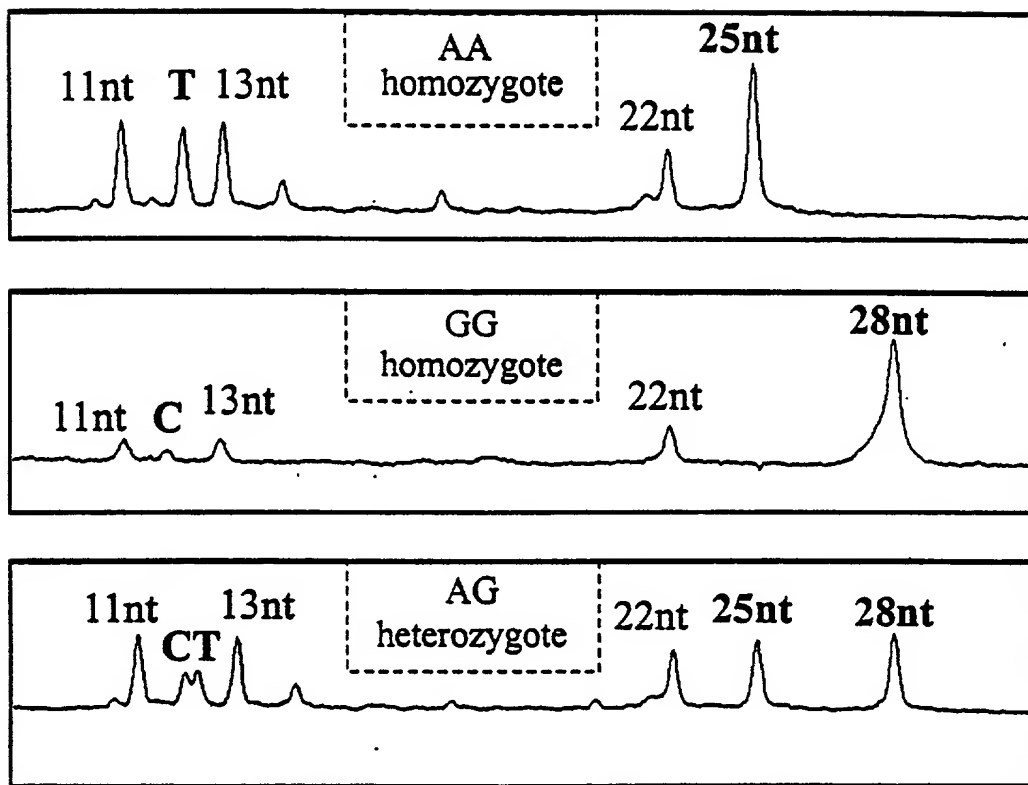
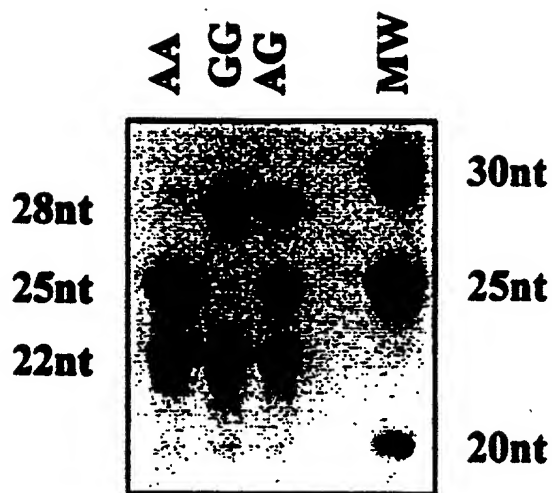


Fig. 12



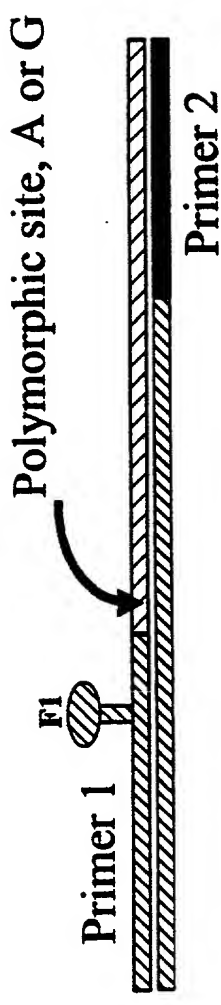


Fig. 13 (a)



Fig. 13 (b)

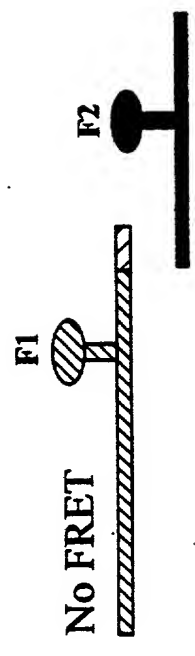


fig. 13 (c)



Fig. 13 (d)